

CLAIMS

~~1. A method of assembling a concentric shaded pole~~  
subfractional horsepower induction motor, the motor  
including

5 a stator,  
at least one field winding,  
an armature rotatable in a central opening in the  
stator core about a longitudinal axis of the stator core,  
comprising the steps of

- 10 (a) winding wire on at least one bobbin;  
(b) assembling the outer portion of the stator core by  
stacking in registration a plurality of  
15 laminations each of substantially equal shape and  
dimension one on top of the other, said outer  
portion circumscribing and defining a first inner  
open space;  
(c) assembling the inner portion of the stator core by  
stacking in registration a plurality of  
20 laminations each of substantially equal shape and  
dimension one on top of the other, said inner  
portion of said stator core circumscribing and  
defining a second inner open space and shaped and  
dimensioned to receive shaded poles and to receive  
said bobbin;  
25 (d) installing said bobbin and at least a pair of  
spaced apart shaded poles on said inner portion of  
said stator core;  
(e) inserting said stator core in said inner open  
space in said outer portion; and,  
30 (f) inserting an armature in said second inner open  
space, said armature including a rotatable shaft.

2. The method of Claim 1 including after step (f) the  
additional step of attaching at least one bracket to said  
outer portion of said stator core with a bearing  
intermediate and contacting said armature and said bracket  
35 ~~and at least partially circumscribing said rotatable shaft.~~

3. A concentric shaded multiple-pole subfractional  
horsepower induction motor including

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- (a) a stator including
- (i) an outer portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said outer portion circumscribing and defining a first inner open space;
- (ii) an the inner portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said inner portion of said stator core circumscribing and defining a second inner open space,
- (b) at least a pair of shaded poles on said inner portion of said stator;
- (c) at least one bobbin on said inner portion of said stator;
- (d) at least two reluctance gaps on said inner portion of said stator, the reluctance gaps each being spaced apart from one of said shaped poles along an arc by 90 degrees or less;
- (e) an armature rotatably mounted in said second inner open space.

*add A2*

~~4. A concentric shaded multiple-pole subfractional horsepower induction motor including~~

- (a) a stator including
- (i) an outer portion including a plurality of registered laminations each having a selected width and being of substantially equal shape and dimension and stacked one on top of the other, said outer portion circumscribing and defining a first inner open space;
- (ii) an the inner portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said inner portion of said stator core circumscribing and defining a second inner open space,

- (b) at least a pair of shaded poles on said inner portion of said stator;
  - (c) at least one bobbin on said inner portion of said stator;
  - (d) at least two pair of reluctance gaps on said inner portion of said stator, the reluctance gaps in each of said pair being spaced apart along an arc by less than forty degrees;
  - (e) a cylindrical armature rotatably mounted in said second inner open space.
5. A concentric shaded multiple-pole subfractional horsepower induction motor including
- (a) a stator including
    - (i) an outer portion including a plurality of registered laminations each having a selected width and being of substantially equal shape and dimension and stacked one on top of the other, said outer portion circumscribing and defining a first inner open space;
    - (ii) an the inner portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said inner portion of said stator core circumscribing and defining a second inner open space,
  - (b) at least a pair of shaded poles on said inner portion of said stator;
  - (c) at least one bobbin on said inner portion of said stator;
  - (d) a cylindrical armature rotatably mounted in said second inner open space, said armature having a selected diameter, the ratio of said diameter to said width of each of said stator laminations being in the range of 1:2.36 to 1:4.4.